

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: ) Examiner: S. McCLENDON  
S. KORENEV, et al. )  
Serial No.: Unknown ) Art Unit: 1711  
Filed: Herewith )  
For: METHOD OF RADIATION )  
TREATMENT FOR )  
FLUOROPOLYMER MATERIALS )  
Attorney Docket No.: ) Cleveland, OH 44114  
MED 2 1187-2 ) December 10, 2001

PRELIMINARY AMENDMENT A

Assistant Commissioner  
For Patents  
Washington, D.C. 20231

Dear Sir:

In the Specification:

On page 1, before the first paragraph of the application, please add the paragraph:

--This application is a divisional of U.S. Application Serial No. 09/624,310, filed July 24, 2000, now U.S. Patent No. \_\_\_\_\_.--

In the Claims:

Please cancel claims 1-12.

Please amend claim 15 to read as follows:

15. (Amended) The apparatus as set forth in claim 13 wherein the radiation source includes:

a particle accelerator which accelerates electrons; and

5 a scan horn which fans the electrons into an electron beam directed into the irradiation chamber.

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*Hilary M. McNulty*  
By: Hilary M. McNulty

To illustrate the changes made to claim 15, the applicants are showing deletions in brackets and insertions in underline as follows:

15. (Amended) The apparatus as set forth in claim [16] 13 wherein the radiation source includes:

a particle accelerator which accelerates electrons; and

5 a scan horn which fans the electrons into an electron beam directed into the irradiation chamber.

Please add new claims 21-24 as follows:

21. (New) An apparatus for irradiating fluoropolymer materials, the apparatus comprising:

a means for removing oxygen and oxygen-containing gases from an irradiation zone to create 5 an oxygen and oxygen-containing gas depleted environment;

a means for applying at least one of electric and magnetic fields across the irradiation zone;

a means for pulsing accelerated electrons through the irradiation zone.

22. (New) An apparatus for irradiating fluoropolymer material, the apparatus comprising:

an irradiation zone which receives fluoropolymer material;

5 an electron accelerator for generating and sending a beam of accelerated electrons through the irradiation zone breaking chemical bonds of the fluoropolymer material and electrically charging the fluoropolymer material;

10 a means disposed adjacent the irradiation zone for applying at least one of electromagnetic and electrostatic fields which cause the charged fluoropolymer material in the irradiation zone to rotate.

23. (New) An apparatus for irradiating fluoropolymer material, the apparatus comprising:

a means for entraining pieces of fluoropolymer in gas depleted of oxygen and oxygen-containing gases;

5 a means for passing the entrained fluoropolymer material through an irradiation zone;

an electron source which irradiates the irradiation zone with accelerated electrons;

10 a means for separating irradiated fluoropolymer pieces from the gas;

a gas recirculation loop which recirculates the gas to the entraining means.

24. (New) An apparatus for irradiating fluoropolymer material, the apparatus comprising:

an irradiation chamber through which polymer material to be irradiated is passed;

5 a source of gas which is depleted in oxygen and oxygen-containing gases, the gas source being connected with the irradiation chamber to create and maintain an oxygen and oxygen-containing gas depleted environment in the irradiation chamber;

10 an electron accelerator which intermittently sends pulses of accelerated electrons through the irradiation chamber providing alternate irradiation and cooling periods for the fluoropolymer; and,

15 an electric circuit which applies at least one of electromagnetic and electrostatic fields across the irradiation chamber.

REMARKS

This amendment is to place the application in better condition for examination and an early allowance.

The applicants are enclosing a form PTO-1449 listing the references of record in the parent application. It is understood that copies of these references appear in the parent application and are

readily available to the Examiner. Upon request, the applicants would be pleased to provide copies of any or all of the cited references.

An early examination and allowance of claims 13-24 is earnestly solicited.

Respectfully submitted,

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